

Appln No. 10/734,003

Amdt date December 21, 2006

Reply to Office action of September 22, 2006

Listing of Claims:

1. (Original) A luminescent display comprising:
 - a plurality of data lines for transferring thereon a data signal representing an image;
 - a plurality of scan lines, each of the plurality of scan lines transferring a selection signal;
 - a plurality of pixel circuits, each of the plurality of pixel circuits formed at a corresponding pixel of a plurality of pixels defined by the plural data lines and the plurality of scan lines; and
 - a power supply line coupled to each of the plurality of pixel circuits,
 - each of the plurality of pixel circuits comprising:
 - a luminescent element for emitting light corresponding to an amount of current applied;
 - a first capacitor;
 - a first transistor having a control electrode thereof coupled to the first capacitor, and a first main electrode thereof coupled to the power supply line;
 - a first switch for diode-connecting the first transistor in response to a selection signal from a previous scan line for a pixel that was previously scanned to charge the first capacitor with a voltage corresponding to a threshold voltage of the first transistor;
 - a second transistor for transferring the data signal from the data lines in response to a selection signal from a present scan line for a pixel that is being presently scanned;
 - a second capacitor coupled between the power supply line and the second transistor for storing a voltage corresponding to the data signal; and
 - a second switch for electrically isolating a second main electrode of the first transistor from the luminescent element during voltage-charging of the first capacitor in response to a control signal,
 - the first transistor supplying a current corresponding to the sum of the voltages charged in the first and second capacitors.

Appln No. 10/734,003

Amdt date December 21, 2006

Reply to Office action of September 22, 2006

2. (Original) The luminescent display as claimed in claim 1, wherein the first switch comprises:

a third transistor for applying a voltage from the power supply line to the first capacitor in response to the selection signal from the previous scan line; and

a fourth transistor for diode-connecting the first transistor in response to the selection signal from the previous scan line.

3. (Original) The luminescent display as claimed in claim 2, wherein the second, third, and fourth transistors are transistors of the same conductivity type.

4. (Original) The luminescent display as claimed in claim 1, wherein the control signal is the selection signal from the previous scan line, and

the second switch comprises a third transistor being turned off in response to the control signal and coupled between the first transistor and the luminescent element.

5. (Original) The luminescent display as claimed in claim 1, wherein the second switch comprises a third transistor coupled between the first transistor and the luminescent element, and

the control signal is a selection signal from a separate scan line for turning on the third transistor.

6. (Original) The luminescent display as claimed in claim 1, wherein the control signal includes the selection signal from the previous scan line, and the selection signal from the present scan line, and

the second switch comprises third and fourth transistors coupled in series between the first transistor and the luminescent element and having their control electrodes coupled to the previous scan line and the present scan line, respectively.

7. (Original) A pixel circuit for a luminescent display, in which plural pixel circuits are formed in a plurality of pixels defined by a plurality of data lines and a plurality of scan lines, each pixel circuit comprising:

Appln No. 10/734,003

Amdt date December 21, 2006

Reply to Office action of September 22, 2006

a luminescent element;

a first transistor having a first main electrode thereof coupled to a power supply line, and supplying a current for light-emission of the luminescent element;

first and second capacitors coupled in series between the power supply line and the control electrode of the first transistor;

a second transistor having a control electrode thereof coupled to a present scan line for a pixel that is being presently scanned, and a first and a second main electrodes thereof coupled to a data line of the plurality of data lines and the first and second capacitors, respectively;

a third transistor having a control electrode thereof coupled to a previous scan line for a pixel that was previously scanned, and coupled between the power supply line and the first and second capacitors; and

a fourth transistor having a control electrode thereof coupled to the previous scan line, and being coupled between the second capacitor and the second main electrode of the first transistor,

the first transistor supplying a current corresponding to a voltage charged in the first and second capacitors.

8. (Original) The pixel circuit as claimed in claim 7, wherein the third and fourth transistors are transistors of the same conductivity type.

9. (Original) The pixel circuit as claimed in claim 7, further comprising:

a switch coupled between the first transistor and the luminescent element having a control terminal thereof for receiving a control signal.

10. (Original) The pixel circuit as claimed in claim 9, wherein the control signal is a selection signal from the previous scan line, and

the switch comprises a fifth transistor coupled between the first transistor and the luminescent element and being turned off in response to the control signal.

Appln No. 10/734,003

Amdt date December 21, 2006

Reply to Office action of September 22, 2006

11. (Original) The pixel circuit as claimed in claim 9, wherein the switch comprises a fifth transistor coupled between the first transistor and the luminescent element, and the control signal is a selection signal from a separate scan line for turning on the fifth transistor.

12. (Original) The pixel circuit as claimed in claim 9, wherein the control signal includes a selection signal from the previous scan line and a selection signal from the present scan line, and

the switch comprises fifth and sixth transistors each having a gate electrode thereof coupled to the previous scan line and the present scan line, respectively, the fifth and sixth transistors being coupled in series between the first transistor and the luminescent element.

13. (Original) A method for driving a luminescent display, which includes a data line, a scan line intersecting the data line, and a pixel formed in an area defined by the data line and the scan line and having a transistor for supplying a current to a luminescent element, the method comprising:

compensating a gate voltage of the transistor in response to a previous selection signal for selecting a first pixel coupled to a previous scan line for a pixel that was previously scanned;

applying a selection signal for selecting the pixel coupled to the scan line; and

receiving the data voltage from the data line in response to the selection signal, and supplying a current corresponding to the sum of the compensated gate voltage and the data voltage to the luminescent element.

14. (Original) The method as claimed in claim 13, further comprising:
interrupting a supply of the current to the luminescent element while the data voltage is applied from the data line, in response to the control signal.

15. (Original) The method as claimed in claim 14, wherein the control signal is the previous selection signal.

Appln No. 10/734,003

Amdt date December 21, 2006

Reply to Office action of September 22, 2006

16. (Original) The method as claimed in claim 14, wherein the control signal is a selection signal from a separate scan line.

17. (Original) A display device comprising:
a display element for displaying a portion of an image in response to a current being applied;

a transistor having a main electrode coupled to a voltage source;
a first capacitor for charging a first voltage corresponding to a threshold voltage of the transistor; and
a first switch, coupled between the transistor and the display element for intercepting a current supplied to the display element from the transistor.

18. (Original) The display device of claim 17, wherein a first voltage is charged in the first capacitor during a first period, and a second voltage is charged in a second capacitor during a second period.

19. (Original) The display device of claim 18, wherein the first and second periods are not superimposed.

20. (Original) The display device of claim 18, wherein the first switch intercepts the current supplied to the display element during the first period.

21. (Original) The display device of claim 18, wherein the first switch intercepts the current supplied to the display element during the second period.

22. (Original) The display device of claim 18, further comprising a second switch coupled in parallel to the second capacitor, wherein the second switch is turned on to discharge the second capacitor.